

SOUTH AUSTRALIAN SOCIETY OF MODEL
& EXPERIMENTAL ENGINEERS

SASMEE

BULLETIN

THE OFFICIAL JOURNAL
OF

THE SOUTH AUSTRALIAN SOCIETY OF
MODEL AND EXPERIMENTAL ENGINEERS



FEB - May 78

Editorial

Bryan Homann

A few errors have been pointed out in the last Bulletin, which goes to show that at least some of them are used for reading.

Included in this issue is the beginning of an article on some aspects of the big Baldwin mikados once used by BHP on the Whyalla to Iron Knob "tramway". Should anyone have further information I would be only too pleased to include it in later editions.

The response with articles has, typically, been very poor, with only one or two people bothering. My thanks to them.

As usual we have a charity field day on Sunday 30 April for the Spina Bifida. Please bring along your models. Remember we are supposed to be a society of model engineers, and as such any models of machinery can be displayed. It doesn't have to have flanged wheels, or float - the public are equally fascinated by other equipment, whether it moves or not.

It is also intended to have the grounds open at Easter for members unable to go to sunny Queensland.

MISSING MODELS

Please note that the model tram, and two locos listed as being stolen (previous issue) have still not been located. Anyone with information that may help please contact the Secretary (address on back page).

THE A G M

Would you - like to see what goes on behind the scenes at SASMEE

- be at the hub of activity
- have a bigger constructive say in what goes on.

Then make yourself available for election to committee at the AGM in May.

As they say, you've got to be in it to win it.

Rosters

CANTEEN ROSTER

March	5	Sunday	M Ambler and D Atkinson
	18	Saturday	I Clark and P Cavanagh
April	2	Sunday	T Fitton and L Fielder
	15	Saturday	F Gordon and K Halstead
May	7	Sunday	A Ide and C Manning
	20	Saturday	F Morcom and S J Grainer
June	4	Sunday	J Buckingham and P Denholm
	17	Saturday	E Dreschler and P Lindblom
July	2	Sunday	C Hill and P Gore
	15	Saturday	P Hart and O Thomas
August	6	Sunday	M Grimshaw and J Barkes
	19	Saturday	S Tankard and P Waugh

Please note that you will need to bring a carton or bottle of milk for tea and coffee making. Please arrive by 1.45pm to get the water boiling and the shop ready for business.

If you cannot make it on the day assigned, please organise a swap.

GROUND'S LOCK UP

March	11	Alex Ide
	24	Wally Brownlow
	25	Paul Griscti
	26	Howard Bateup
	27	Jack Davey
April	8	Alan Brabham
	22	Howard Bateup
	29	Ian Clark
May	13	Mike Bradford
	27	Bryan Homann
June	10	Alex Ide

INFORMAL MEETING UNLOCKING

March	28	Jack Davey
April	25	Peter Gore
May	23	Wally Brownlow

Rosters

LOCOMOTIVES

March 5 Sunday

H Bateup
K Besley
W Brownlow
B Homann
R Smyth

March 18 Saturday

R Skewes
C Bamford
J Beal
K Besley
H Bateup

April 2 Sunday

W Brownlow
R Smith
H Bateup
K Besley
T England

April 15 Saturday

H Bateup
K Besley
B Homann
J Beal
W Brownlow

April 30 Charity Day

C Bamford
J Beal
W Brownlow
K Besley
H Bateup
R Smyth

May 7 Sunday

C Bamford
R Smith
H Bateup
K Besley
B Homann

May 20 Saturday

R Skewes
C Hill
H Bateup
W Brownlow
K Besley

June 4 Sunday

W Brownlow
R Smith
T England
K Besley
H Bateup

In Days Of Olde

The Bulletin Vol 2 No.3 Dec 1962

"The (Adelaide 1963) Exhibition authorities request that we endeavour to create as much noise on the pond as possible to draw the crowds - the model cars did at the last one".

No doubt the current noise legislation proponents would cast jaundiced eyes should this happen in 1978.



The success of any society or club depends upon co-operation and an understanding of the other person's point of view. The spirit of compromise was very evident at the November meeting when the motion to build a ground level track in $7\frac{1}{4}$ " gauge was put forward. By amending the motion to incorporate both $7\frac{1}{4}$ " and 5" the move was successful and the Society has adopted this project.

The Rail Division of the State Transport Authority has agreed to allow the western boundary fence to be realigned outside its original position. This will allow the new track to be laid without altering any present set up, and thus will accomplish the laying of a ground level track, originally adopted for 5" gauge only in Feb. 1972. By the time this is printed, the fence will have been realigned, and the preparation of the track bed started.

Meanwhile other projects are continuing and will proceed to their logical conclusions. To the members who come along to working bees and field days, I say thank you for your efforts. With the increasing membership it is evident that we are a happy and successful society catering for ALL aspects of model engineering.

Believing that mad dogs and model engineers go out in the midday sun, the special working bees have started at 9.30 and most work completed before the heat of the day.

The Christmas function was an outstanding success and also mention must be made of the 'off meeting nights' which have returned to their former success.

P. W. GRISCTI

President

March 1978

- Saturday 4 Working bee 1.00 pm
Sunday 5 Public Field Day 2 - 5 pm
Tuesday 7 Committee meeting 7.30 pm
Tuesday 14 General Meeting 8.00 pm. Talk by Ken Umlauf
(c/o J. Beal) on "Black powder guns"
Saturday 18 Public Field Day 2 - 5 pm
Friday 24 to Monday 27 Easter - grounds open for those unable
to go to Queensland
Tuesday 28 Informal meeting 8.00 pm - come and talk model
engineering

April 1978

- Saturday 1 Working bee 1.00pm
Sunday 2 Public Field Day 2 - 5 pm
Tuesday 4 Committee meeting 7.30 pm
Tuesday 11 General meeting 8.00 pm. Talk by Denys Irving on
"Mass Production"
Saturday 15 Public Field Day 2 - 5 pm
Tuesday 25 Informal meeting 8.00pm
Sunday 30 Charity Field Day 2 - 5 pm for Spina Bifida

May 1978

- Tuesday 2 Committee meeting 7.30 pm
Saturday 6 Working Bee 1.00 pm
Sunday 7 Public Field Day 2 - 5 pm
Tuesday 9 Annual General Meeting 8.00 pm - Election of office
bearers for 1978-79
Saturday 20 Public Field Day 2 - 5 pm
Tuesday 23 Informal meeting 8.00 pm

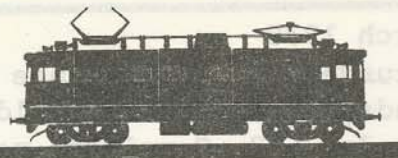
June 1978

- Saturday 3 Working Bee 1.00 pm
Sunday 4 Public Field Day 2 - 5 pm
Tuesday 6 Committee meeting 7.30 pm
Tuesday 13 General meeting 8.00 pm. Come and get your next Bulletin

A COMMITTEE THANKYOU

To express their thanks for the work done by the Ladies associated with SASMEE members, for and at the Easter Convention, the members of the Committee did the preparation and the cooking for a BBQ tea at the grounds in September.

Again the weather favoured us and many of those who did the work at Easter were able to relax in their chairs and be waited on. One or two even got to drive locos.



A nice mild daylight saving type evening saw the annual show of work held after the November General meeting.

The variety continues to reaffirm the interest in model engineering in the broadest sense, and I hope the display helps fan the fires of enthusiasm in the younger and newer members. Following is a list of who's doing what - I don't think we left anyone out.

- | | |
|-----------------|---|
| John Williams | - Fire boat 'KARLOO' |
| Colin Cook | - Stuart 'double 10' steam engine |
| Brian Niesche | - C type Foden truck - parts of |
| John Wakefield | - 1½" scale loco drivers steam brake valve |
| Bryan Homann | - 10' turntable for 5"g - parts of |
| Terry Middleton | - 3½"g LNER class L1 2-6-4t - parts of |
| Bob Brown | - 4-6-2 + 2-6-4 freelance Garratt 5"g - parts of |
| Paul Griscti | - 32 lb short naval cannon - parts of |
| Keith Besley | - 5"g SAR 500 class 4-8-2 - parts of |
| Mike Bradford | - freelance vertical boiler |
| | - Stuart vertical 10 steam engine |
| | - Stuart double 10 steam engine |
| Peter Denholm | - 3½"g Tich |
| John Beal | - boiler for 5"g 0-6-0 switcher |
| Fred Gordon | - Stuart Turner beam engine |
| Geoff Murdoch | - 'Mechanical flea' - very small gauge brass loco chassis |
| | - 3½"g modified Tich |
| Bob Smith | - 5"g Baldwin 10 wheeler 4-6-0 |

Of special interest was the mechanical flea built at around 25mm gauge for electric drive. Looking like the beginning of a small Krauss loco it was complete with proper big end (about 3/32" diam) brasses. It also looks as if the Presidential Palace is being fortified with naval cannon.

Special Events

CHARITY FIELD DAY

October gave us beautiful weather for the Charity Field day held in conjunction with the Adelaide Lions Club. The crowd was steady and by the end of the day had relinquished approximately \$600. The vertical boiler, and its attendant brace of engines, proved again to be a fascinating drawcard. The new ticket office at the gate was available for use, for the first time, but the club did not use it.

Locomotives, ten in all, provided plenty of variety and pulling power, although it became necessary for the two diesels and a steam loco to take on additional trucks to "keep em moving". The boat pond was suitably relaxing and tranquil with the radio controlled ships and boats plying back and forth amongst the ripples.

In addition to all this we had the usual display of full size railways with a parade of freights taking their first bite into the South line, and rail cars drifting round onto the Christie Downs line.

Variety keeps the public and members interested, and it is very pleasing to see the support the field days have been getting lately. Of course we would like still more, so don't be afraid to display your work.

ST. JOHN'S DISPLAY

In November we assisted the St. John Ambulance Brigade Cadet Corp in their annual fete in the West Parklands. A static display of locos, ships, stationary engines and ploughs complemented another group's electric model railway layout, provided a point of interest, and, I think, the only tent where things were not for sale. My thanks to the chaps who helped man the display. No comment about all those who voted to assist St. John's and then quietly dissolved away.

THE MIKADOS OF BHP

The BHP Whyalla bought two large Baldwin 2-8-2 Locomotives in 1919, as part of a batch of four locos, designated Nos.6 to 9, to upgrade the service on the Iron Knob ore railway (or Tramway as official regulations require it to be). These two largely replaced two other venerable Baldwins Nos.4 & 5 in 1921. No.4 is now statically preserved at Mile End and No.5 met its demise as a result of the collapse of a large embankment during a freak flood.

These large engines had the distinction of being the first engines of the 2-8-2 wheel arrangement to be used in Australia, and they consistently hauled trains in the order of 2,300 tons gross. When Nos.6 and 7 were ordered, they were to be the most powerful engines in Australia.

They trod the rails from Whyalla to Iron Knob and Iron Baron, hauling nearly all the iron ore produced in Australia for many years until in May 1957 the GM diesels shattered the peace with their racketing exhaust. Unfortunately the Mikados exist only in memory and photographs, as, being very near to an electric steel furnace, they disappeared into this, as did many SAR engines some years later. One item to survive is a paper presented by an unknown author on the subject of the boilers of these engines, and later on we start a reproduction of this as being one example of the problems associated with operating full size boilers under arduous conditions.

Before going on to that, the following has been extracted from a copy of the original Baldwin specification to give you an impression of these engines.

The engines were classed 12 36 1/4 E by Baldwin and were 2-8-2 configuration with 48" dia driving wheels. Cylinders were 21" dia by 24" stroke. All up weight of engine and tender was 299,920 lbs or 134 tons. They toted 9 tons of coal and 6,500 Imperial gallons of water, and at 85% of boiler pressure yielded 37,500 lb of tractive effort with an adhesion factor of 4.03.

I don't think the engines were received as per the standard spec, but it calls for the boiler cladding as follows:

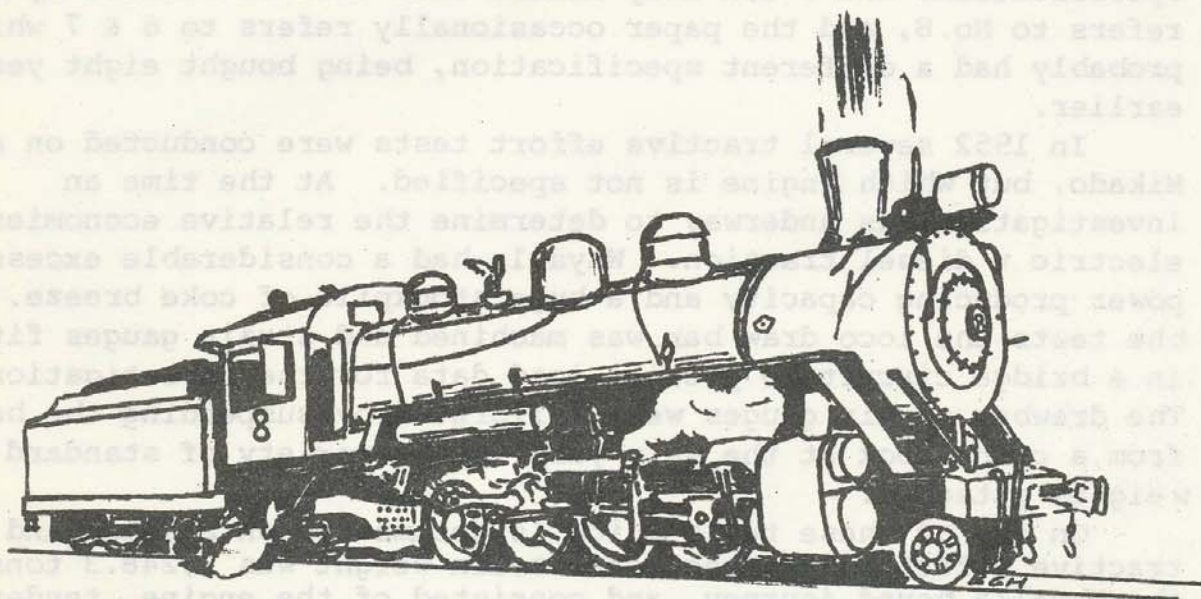
"Boiler and backhead lagged with approved magnesia sectional boiler covering, neatly jacketed with #18 rust proof copper bearing steel, polished, and secured by steel bands".

In a supplement to the standard specification, the painting was specified as "Painting style Olive green and aluminium. Mark on tank sides BHP Co - I.K. TRAMWAY. Road No.8 on front number plate, front sand box, cab sides, and back of tank".

The cylinders were of "close grained iron, as hard as can be worked", which is an open ended spec if ever there was.

The main frames were in cast steel, and the cab "substantially built of steel, well finished and substantially put together".

They had two sand boxes and sand delivery by Leach air sanders in each box to sand front and back.



The tender was constructed of 10" channel with two four-wheel arch bar bogies.

The engine was also to be supplied with five gallons each of Locoline engine oil and valve oil.

About the boilers, the specification reveals the following features:

The 2" deoxidised arsenical copper fire tubes were to have cast steel thimbles in the back ends, and the 5 3/8 inch flues to be reduced in diameter and screwed into the tube sheet, with mild steel thimbles rolled in to protect the bead. The front end of the flues were to project uniformly 1" and were not to be beaded. There were 161 tubes and 26 flues of length 17' 8".

The rigid staybolts were of arsenical copper, as were the Flannery flexible stay bolts.

The water space around the firebox was 4", and the firebox was 90" long by 65" wide. The crown and side sheet, and back sheet, were 1/2" thick and the tube sheet no less than 1 5/8 inch of arsenical copper (\$\$\$\$\$\$).

The American Arch Co's Security arch was supported on four seamless steel tubes 3" dia by 3/16 inch wall.

Design pressure was 200psi and the barrel dia 70" with 1" thick plates. Heating surface totalled 2,286 sq ft with a grate area of 41.3 sq.ft.

In the BHP paper you may notice some differences in the boiler specifications and I can only assume that this is because my spec refers to No.8, and the paper occasionally refers to 6 & 7 which probably had a different specification, being bought eight years earlier.

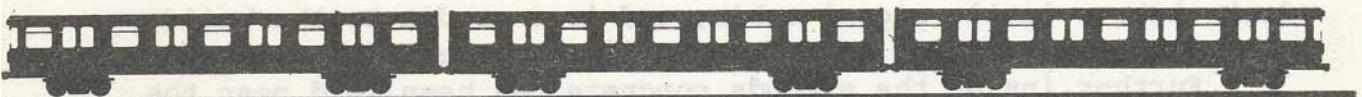
In 1952 several tractive effort tests were conducted on a Mikado, but which engine is not specified. At the time an investigation was underway to determine the relative economies of electric v diesel traction. Whyalla had a considerable excess of power producing capacity and a huge stockpile of coke breeze. For the tests the loco draw bar was machined and strain gauges fitted in a bridge circuit to provide load data for the investigations. The drawbar strain gauges were calibrated by suspending the bar from a crane hook at the ship yard with a variety of standard weights attached.

On one of these tests which is documented on a speed and tractive effort graph, the total train weight was 2,248.3 tons on the Whyalla bound journey, and consisted of the engine, tender, 29 bogie ore trucks, and a brake van. The tractive effort was taken on the drawbar between engine and tender.

Whilst basically down hill, there are a few steep pulls, the most severe being from the 23 mile to the 21 mile. Here the engine is seen drifting down a 1:330 grade at 23mph when the regulator is opened. The grade steepens to 1:130 as speed gathers and the loco thunders along about half a mile of flat and up the 1:150 of the other side with the train pushing it along to a top speed of 35mph. As the grade makes itself felt, the speed tapers off and the tractive effort ascends to a momentary peak of 40,000 lb, with the speed now a slogging 4mph. A short stop at the 20½ mile siding and the engine blasts away to 29,000 lb of tractive effort, and three minutes later steam is cut off for the long roller coaster run to the sea.

Looking along the speed and tractive effort graph of this trip makes one wish to take a tape recorder back in time - one of these big Mikes on the night shift ore drag in the middle of winter would have been something.

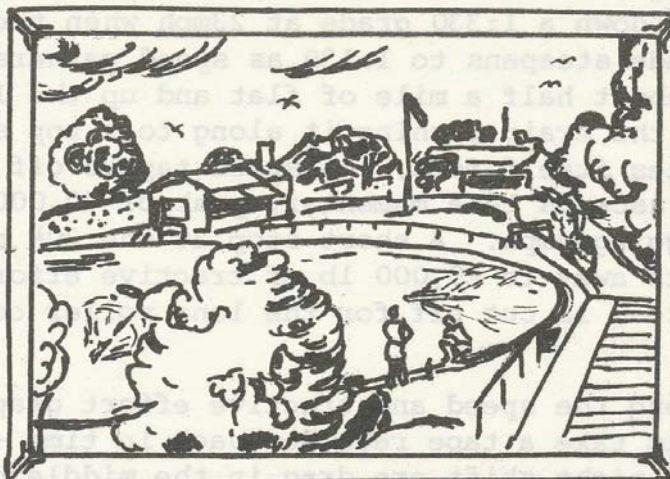
This all leads up to the paper mentioned previously; the author, date and place of presentation, unfortunately are all unknown. The paper will be presented, completely unabridged, in the next edition of the "Bulletin".



ERRATA

The following errors were noted in the previous issue:

1. The missing tram model was route No.17 not No.7, and it was also numbered 17.
2. The 3½"g OLYMPIAD is in fact a 2½"g Olympiade.
3. In Alan Frankham's recollections the reference to Harold Clisby should have been to his brother Ron.
4. VicePatron Mr. A W C Crossman was inadvertently omitted from the list of office bearers.



AROUND THE GROUNDS

We are not letting the grass grow under our feet (but it certainly grows everywhere else) and several projects are under way.

Of particular interest is a neat and tidy little structure at the front gate, in which the Treasurer may reside to collect money on field days. Largely built off site at Phil Waugh's workshop, it looks like a little signal cabin, and is a credit to the building gang, who are learning lots from Phil's many years in the trade.

Further inside the grounds concrete has been laid near the boiler house. This will be roofed over and will house some steam engines too big to go in the steam house. It is intended to also have space available for display of static models, such that prying fingers can see but not touch.

The P A system is being repaired so that Uncle Al sounds as if he is transmitting from earth rather than the Crab Nebulae.

With the acquisition of some more earth on the western boundary, it has become physically possible to install a ground level $7\frac{1}{2}/5$ "g track, and the November general meeting unanimously endorsed this move. Nerves of steel will be needed when rounding the curve outside the present tunnel and passing a 930 on a down Tonsley freight at quite close quarters. The ground level track, which was first mooted several years ago, will extend the operational facilities of modelling, giving even more variety in an already highly varied society, and can only improve the society's well being.

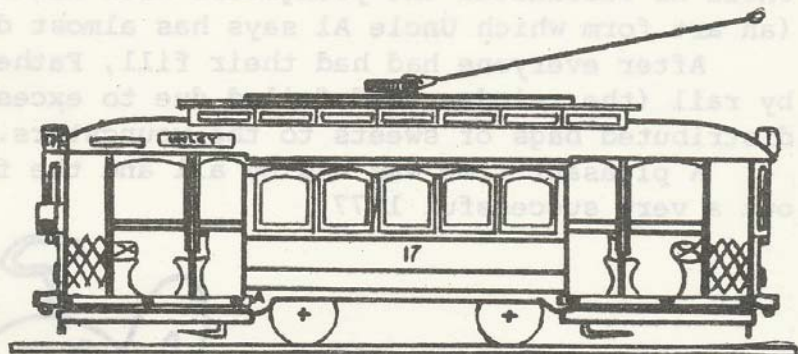
Welcome

The ranks are increasing at a considerable rate and we have seen quite a bit of some of our new members before they have even officially joined. We welcome Trevor Griscti, Colin Cook, Alan and Mark Lethbridge, William West, Graham Sorell and Barry Gamble who have all joined since the last edition, and hope they have a long and enjoyable association with our Society.

P.S. The roster clerk likes seeing all those extra names too.

MISSING

MODELS



On or about the 26th August last year, three display models disappeared from the shelves at the front of the clubhouse. They are

1. 3½" g LBSC Dyak in green livery
2. 2½" g 3 cyl Olympiade in red livery
3. 5" g MTT A class tram No. 17 with destination board 'Unley' and route No 17 displayed.

Investigations within the Society have revealed no trace of these models and the matter has been referred to the SA Police.

Members of the Society, and other clubs throughout Australia, are asked to keep a look out, and report any sighting or offers of sale of these models to the Secretary of SASMEE, Box 228, MAGILL, 5072 or telephone (08) 30 1925, so that urgent action can be taken to recover them.

CHRISTMAS BARBEQUE

After appeals from the General Meetings, we departed from tradition and held the BBQ on a day all of its own. Nearly 100 people attended and spent a very pleasant afternoon in beautiful weather down at the grounds. Several locos were on the go, including Howard Bateup's freelanced machine based on Caribou. A stayless steel boiler generates huge volumes of steam for the large and powerful cylinders.

The pond was alive with radio controlled shipping and one or two yachts becalmed in a Sargasso sea of floating weed and lawn cuttings. While the offerings were being prepared for cremation, Uncle Al fascinated the youngsters with his Punch and Judy show (an art form which Uncle Al says has almost died out).

After everyone had had their fill, Father Christmas arrived by rail (the reindeer had failed due to excess tonnage) and distributed bags of sweets to the youngsters.

A pleasant time was had by all and the function nicely rounded out a very successful 1977.

DON'T
FORGET
THAT



your subs are due before the beginning of the AGM in May. Adults are \$10, Junior \$5.50, Students \$2.50, and Country \$5.50, while Extraordinary members pay \$1 insurance. Delay in sending these in costs the Society money in having to send reminders, and seriously delays updating the membership list which is produced for YOUR benefit - SO PAY EARLY and STAY ON THE MEMBERSHIP LIST. Pay the Treasurer on a Field Day or at a meeting, or send your subs through the Secretary (address back page).

A HISTORY

Portonian

The Official Organ of the Port Adelaide Historical Society Inc.
September 1977

HISTORIC STEAM ENGINE

When Josiah Oldfield arrived in SA in 1847 he brought with him a steam engine he had constructed in 1846, believed to be the only steam engine then in SA. He purchased land at Norwood in 1850, on which Norwood Town Hall now stands, moved to Morphett Vale in 1854 and was involved in the construction of the Noarlunga Flour Mill. Goolwa was Mr. Oldfield's next area of interest, for he purchased land in 1858 and built the first 'airconditioned' house with numerous fireplaces linked to a central chimney. His interest turned to Marine engineering and later we find him serving as engineer on ships trading between Adelaide and Melbourne. He became in 1877 foundation President of the SA Institute of Marine and Power Engineers. In 1881 he purchased a property at Dudley St Kew (Semaphore) and died there in 1890.

His steam engine of 1846 was used by his son, W.H. Oldfield in his bakery at College Street Portland (this building still stands) and upon his retirement it came into the possession of Josiah Oldfield's grandson, Edgar Oldfield. He used it in his Golden Grain Bakery at Exeter, where it was used for cutting firewood for the ovens until replaced by coke ovens in the 1920s.

Upon the closing of this bakehouse the engine was donated to the SA Society of Model and Experimental Engineers and is still operational at their grounds at Millswood. It can be seen on the first Sunday and third Saturday of each month.

"The beam engine given to the Society by Miss Oldfield and overhauled by Ralph Skewes had its initial run at the September field day"

Bulletin Vol.2 No.3

December 1962 - February 1963

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